

3M Application Profile: Flexible Pipe & Umbilicals



Flexible pipe and umbilicals are used to harvest oil and gas resources in deep oceans and far below the sea floor's surface being exposed to high pressure as well as extreme cold and hot temperatures.

Application Description:

High Strength tape wound within cables providing additional internal strength, as well as holding materials together to ensure the integrity of the cable when placed in high pressure or tensile locations such as underwater or underground.

Application Benefit:

- Adds to the internal strength of pipes and cables which can aid in avoiding mechanical failures during use and through the manufacturing process
- Can help reduce the overall diameter and weight of the pipe

Key Application Requirements:

- Extreme tensile strength, abrasion and wear resistance even when under intense pressures, along with high holding power to substrate and own backside to avoid shifting under pressure and tension



Umbilical assemblies utilize Scotch® Filament Tape 890 HD to help maintain the integrity of each umbilical layer.

Tape Benefits:

- **Long lasting:** High tensile strength with aggressive adhesives, maintains bond, helping to minimize the risk of damage or failure over part(s) lifetime
- **Thin caliper:** Low-profile solution takes less space in final product
- **Efficient Production:** Extra-long rolls with fewer splices help to reduce roll changeover and potential downtime due to splice failures
- **Reliability:** For more than 30 years, Scotch® High Strength Filament Reinforced Tapes have been successfully used by customers in manufacturing to contain the steel bands or wires used for armoring flexible flow lines, risers and umbilicals

Products	
Scotch® Filament Tape 890 HD	
Scotch® Filament Tape 898	
Scotch® Filament Tape 893	
3M™ Filament Tape 8961	
Scotch® Filament Tape 8983P	
Suggested Applications	
Oil & Gas	Plastic tubing, anti-bird caging, hydraulic riser, power lines, & fluid lines



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